

Job offer for the OPUS 28 National Science Centre (NSC) project

L-SWITCH: towards tailor-made molecular switches for specific applications – understanding of transition-metal coordination compounds with ambidentate ligands.

Institution: University of Warsaw, Faculty of Chemistry

Position: *Post-doc*; (Polish) **adiunkt** in research employees group. The successful candidate will run a research in exact and natural sciences, in discipline of chemistry. People of all genders are invited to participate. Career stage: R2.

Number of positions: 1

Competition no: WCH.1210-11/25

Requirements:

1. A doctoral degree in chemistry, physics, or related sciences (required at the latest upon commencement of employment), obtained no earlier than **January 1, 2013**.
2. Experience in high-pressure crystallography (sample preparation, high-pressure measurements in the laboratory and/or at a synchrotron, data analysis) documented by scientific publications, research internships, and/or measurement trips.
3. Ability to work in a team.
4. Good English language skills.
5. *Knowledge/experience in solid-state spectroscopy and/or modelling is desirable.*
6. *Python and/or C++ programming skills in are an asset.*

The candidate must meet the requirements of Article 113 of the Act on Higher Education and Science of 20/07/2018 (consolidated text: Journal of Laws of 2024, item 1571 as amended).

Assessment criteria:

1. The candidate's scientific achievements, including scientific publications.
2. The candidate's competencies to carry out specific tasks in the research project.
3. The outcome of the interview.

Primary responsibilities:

1. Performing X-ray diffraction structural measurements, with an emphasis on high-pressure studies, along with analysing the collected data.
2. Participating in complementary spectroscopic measurements (solid-state emission, UV-Vis spectrophotometry, *etc.*).
3. Maintaining scientific documentation – data analysis and report preparation.
4. Participating in the preparation of scientific publications and presentation of results.
5. Performing other minor duties related to functioning in the research group.

Project description:

The project is dedicated primarily to investigate the factors crucial for the photo- and pressure-induced switching activity of model representative transition-metal complexes with ambidentate ligands and understand the structure-property relationships. For that purpose 3 groups of compounds were selected, *i.e.* (I) square-planar nitrite complexes of Ni, Pd, Pt, Cu, or Rh, (II) octahedral nitrite complexes of Ni, Co, Fe or Ru, (III) modifications of the first two groups with the SO₂ ambidentate ligands, or mixed NO/NO₂, *etc.* The first group of compounds constitutes a continuation of our earlier studies on square-planar nickel nitro complexes with the (*N,N,O*)-donor ancillary ligands, however, will be extended towards other classes of this kind of compounds, including mainly these with pincer-type supporting ligands. The second group originates from promising preliminary results for octahedral Ni^{II} (high-pressure-induced molecular switching) and Co^{II} complexes (photoswitching potential at room temperature), both coordinated by multiple nitro groups. Finally, the third group will enable studies of the SO₂ switching activity and also comparison of the effect of various ambidentate ligands, molecular charges, *etc.* These compounds are also prone to exhibit interesting magnetic, or spectroscopic properties (colour change, *etc.*). The choice of compounds shall facilitate testing of numerous factors that affect, or govern switching properties of this kind of systems, and

investigating the isomerisation reaction mechanism in the case of various compounds and crystal environments. In consequence, such gained knowledge and understanding may enable us to design materials with specific properties and switching activity under desired conditions.

NSC programme type: **OPUS 28 (ST panel)**

Application deadline: **5 November 2025, 23:59:59 CET**

Application submission method: **e-mail**

Employment conditions:

1. **Full-time employment.** Employment from **January 1, 2026**, to **December 31, 2027** (with the possibility of a **two-year** extension until **December 31, 2029**), at the Faculty of Chemistry, University of Warsaw. We offer a possibility of development and social benefits. Position is not related to activities covered by the protection of minors.
2. **Salary: 140,000.00 PLN** per year (gross, including employer costs, so-called “gross”).

Additional information:

Applications should be submitted by **November 5, 2025 (11:59:59 PM, *end of day*)** exclusively via email to: **katarzyna.jarzemska@uw.edu.pl**. The email should be titled as follows: “OPUS 28 Post-doc - Name Surname”. The application must include (*only PDF files will be accepted*):

1. A concise CV (1-2 A4 pages).
2. A cover letter relating to the research group's subject matter [www.photocrystallography.eu].
3. Contact details for two people who can provide feedback on the candidate (*please do not submit feedback yourself*).
4. A list of scientific publications, conference presentations, and research internships.

Please include information about accessibility needs in the recruitment process in your application if you have a disability or special needs.

The best candidates will be invited to an **online** interview, which will take place after **November 11, 2025** (interview invitations will be sent via email by *November 9, 2025*). The selection committee's decision will be communicated to candidates via email by **November 26, 2025**.

For more information, please contact the project manager – Prof. **Katarzyna Jarzemska**, PhD DSc (**katarzyna.jarzemska@uw.edu.pl**).

The competition is the first stage of the academic teaching recruitment process, and a positive result forms the basis for further proceedings.

We use:

1. The policy of open, transparent and merit-based recruitment at the University of Warsaw [[jobs-link](#)].
2. The procedure for whistleblowers reporting cases of law violation at the University of Warsaw [[sygna-list-link](#)].
3. University of Warsaw gender equality plan [[gender-link-en](#)].

Information about the processing of personal data for a job applicant at the University of Warsaw is available: [[rodo-link](#)].